AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for identifying a candidate compound for treating a neoplasia, said method comprising the steps of:

(a) contacting a cell comprising a nucleic acid sequence having at least 95% sequence identity to SEQ ID NO: 24, wherein said nucleic acid sequence comprises a loss of function mutation ~~in a Class B synMuv gene having at least 95% sequence identity to SEQ ID NO: 24~~ and said cell comprises a second loss of function mutation in a Class A synthetic multivulval gene with a candidate compound;

(b) detecting cell proliferation in said contacted cell and

(c) comparing said cell proliferation in said contacted cell to cell proliferation in a control cell, wherein said control cell is not contacted with said candidate compound,

wherein a decrease in cell proliferation in said contacted cell relative to a said control cell identifies a candidate compound for treating a neoplasia.

2. (Original) The method of claim 1, wherein said cell is in a nematode.

3. (Original) The method of claim 1, wherein said cell is an isolated mammalian cell.

4-21. (Canceled)

22. (Previously Presented) The method of claim 1, wherein the Class A synthetic multivulval gene is *lin-15A* or *lin-38*.

23. (Currently Amended) A method for identifying a candidate compound for treating a neoplasia, said method comprising the steps of:

(a) contacting a cell comprising a nucleic acid sequence having at least 95% sequence identity to SEQ ID NO: 26, wherein said nucleic acid sequence comprises a loss of function mutation ~~in a Class B synMuv gene having at least 95% sequence identity to SEQ ID NO: 26~~ and said cell comprises a second loss of function mutation in a Class A synthetic multivulval gene with a candidate compound;

(b) detecting cell proliferation in said contacted cell; and

(c) comparing said cell proliferation in said contacted cell to cell proliferation in a control cell, wherein said control cell is not contacted with said candidate compound,

wherein a decrease in cell proliferation in said contacted cell relative to a said control cell identifies a candidate compound for treating a neoplasia.

24. (Previously Presented) The method of claim 23, wherein the Class A synthetic multivulval gene is *lin-15A* or *lin-38*.

25. (Previously Presented) The method of claim 23, wherein said cell is in a nematode.

26. (Previously Presented) The method of claim 23, wherein said cell is an isolated mammalian cell.

27. (Currently Amended) A method for identifying a candidate compound for treating a neoplasia, said method comprising the steps of:

(a) contacting a cell comprising a nucleic acid sequence having at least 95% sequence identity to SEQ ID NO: 28, wherein said nucleic acid sequence comprises a loss of function mutation ~~in a Class B synMuv gene having at least 95% sequence identity to~~

~~SEQ ID NO: 28~~ and said cell comprises a second loss of function mutation in a Class A synthetic multivulval gene, with a candidate compound;

(b) detecting cell proliferation in said contacted cell; and

(c) comparing said cell proliferation in said contacted cell to cell proliferation in a control cell, wherein said control cell is not contacted with said candidate compound,

wherein a decrease in cell proliferation in said contacted cell relative to a said control cell identifies a candidate compound for treating a neoplasia.

28. (Previously Presented) The method of claim 27, wherein the Class A synthetic multivulval gene is *lin-15A* or *lin-38*.

29. (Previously Presented) The method of claim 27, wherein said cell is in a nematode.

30. (Previously Presented) The method of claim 27, wherein said cell is an isolated mammalian cell.

31. (Currently Amended) A method for identifying a candidate compound for treating a neoplasia, said method comprising the steps of:

(a) contacting a cell comprising a nucleic acid sequence having at least 95% sequence identity to SEQ ID NO: 2, wherein said nucleic acid sequence comprises a loss of function mutation ~~in a Class B synMuv gene having at least 95% sequence identity to SEQ ID NO: 2~~ and said cell comprises a second loss of function mutation in a Class A synthetic multivulval gene with a candidate compound;

(b) detecting cell proliferation in said contacted cell; and

(c) comparing said cell proliferation in said contacted cell to cell proliferation in a control cell, wherein said control cell is not contacted with said candidate compound,

wherein a decrease in cell proliferation in said contacted cell relative to a said control cell identifies a candidate compound for treating a neoplasia.

32. (Previously Presented) The method of claim 31, wherein the Class A synthetic multivulval gene is *lin-15A* or *lin-38*.

33. (Previously Presented) The method of claim 31, wherein said cell is in a nematode.

34. (Previously Presented) The method of claim 31, wherein said cell is an isolated mammalian cell.